

Abstract

This invention provides methods of enhancing plant growth or yield, comprising exposing soil to hydrogen gas (H_2), and growing plants in the soil. The H_2 gas employed can be generated by electrolysis of water, produced by H_2 evolving microorganisms, and/or produced by legumes. In accordance with the invention, soil can be exposed to H_2 and plants then grown in it, or H_2 can be applied directly to soil in which plants are already growing. In one embodiment, the invention comprises obtaining an aqueous extract from H_2 -treated soil, and applying the extract to soil, seeds, and or plant roots.